

Amendments to the Drawings:

The attached replacement drawing sheets makes changes to Figs. 1, 4 and 5; replace the original sheets with Figs. 1, 4 and 5; and adds new Fig. 7.

Attachment: Replacement Sheets

REMARKS

Claims 1-8 are pending in this application. By this Amendment, Figs. 1, 4 and 5 are amended and Fig. 7 is added. Support for new Figure 7 can be found in the specification as originally filed, such as at page 3, lines 23-25. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

I. Objections to Drawings

A. Figure 4

The Office Action asserts that Figure 4 should be designated as --Prior Art-- because only that which is old is illustrated. By this amendment, a corrected Figure 4 is labeled "Prior Art." Reconsideration and withdrawal of the objection are respectfully requested.

B. Objection to Drawings under 37 CFR 1.83(a)

The drawings are objected to under 37 CFR 1.83(a) as failing to show every feature of the invention specified in the claims. Applicant respectfully traverses this objection. However, in order to expedite prosecution, new Figure 7 is added by amendment.

Fig. 7 depicts the waist 2 in enlarged scale under a load from the mouth position downward. The waist 2 is depicted at the corner pillar portion 1a having inflection 3 with an arcuate profile that is bulged outwards with a constant radius of curvature. Reconsideration and withdrawal of the objection are respectfully requested.

C. Objection to Drawing under 37 CFR 1.84(p)(4)

The drawings are objected to under 37 CFR 1.83(p)(4) because reference character "2b" has been used to designate both a groove base in Fig. 4 and another part in Fig. 1 and Fig. 5. Fig. 1 and Fig. 5 were corrected to delete "2b." Reconsideration and withdrawal of the objection are respectfully requested.

II. Rejection Under 35 U.S.C. §112

Claims 3 and 6 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. By this Amendment, Fig. 5 is amended to show the inflection 3 along the arcuate profile 2a projecting convexly inwards of the container and extending with a constant radius of curvature R. Additionally, newly added Fig. 7 shows the inflection 3 along the arcuate profile 2a that is bulged outwards with a constant radius of curvature R. Reconsideration and withdrawal of the objection are respectfully requested.

III. Rejections Under 35 U.S.C. §103

A. Figure 4 or Miura JP '233 in view of Platte '082

Claims 1, 3, 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over either the prior art shown in Fig. 4 or Japanese Patent Publication No. 2002-145233 to Miura (hereinafter "Miura") in view of U.S. Patent No. 3,708,082 to Platte (hereinafter "Platte"). Applicants respectfully traverse the rejection.

Independent claim 1 is directed to, "A square-sectioned synthetic resin container comprising a body having a square cross-section defined by four corner pillar portions and four flat walls joining the adjacent pillar portions, said body being provided with a waist for dividing the body into at least upper and lower sections, wherein: said waist comprises a circumferential groove having a trapezoidal profile that protrudes convexly inwards of the container; and said groove had an arcuate groove wall at least at said pillar portion." Such a container is not taught or suggested by Fig. 4 or Miura in view of Platte.

Conventional square-sectioned synthetic resin containers, as depicted in Fig. 4, have a trapezoidal profile at the waist portion 2 at each pillar portion 1a defined by a groove base 2b and groove walls 2c, with inflection 3 at their junction. The junction creates an inflection point and when a load is applied from the mouth portion downwards, stresses tend to concentrate at this junction causing the container to buckle.

On the other hand, the claimed invention does not have these junctions. Rather, in the claimed invention the waist 2 at each pillar portion has a groove having an arcuate groove wall as can be appreciated by Fig. 5. Consequently, when a load is applied from the mouth portion downwards and stress builds on the waist 2, the container projects convexly outwards with a constant radius of curvature.

Miura teaches a container similar to Fig. 4 where there are inflection points at the junction between the groove base and groove walls. See Miura at col. 5-6, figures 1 and 2.

The Office Action asserts that it would have been obvious in view of Platte to provide the pillar or corner panels of the prior art at the waist with a groove that has an arcuate curve. However, Platte not only fails to teach or suggest the particular limitations of claim 1, but in fact teaches the opposite. Platte discloses a plastic container with an inflection point at the junction between the groove base and groove walls and that the inflection point acts as a hinge permitting segments of the panels to bow inwardly. See Platte at col. 4., lines 52-58. Additionally, Platte teaches the container to bulge outwardly an amount so as to make the container appear to have straight vertical walls when filled with liquid, thereby assuring a more attractive appearance. On the other hand, the claimed invention provides for an arcuate groove wall to strengthen the integrity of the container, opposed to making the container appear to have straight vertical walls for aesthetic appearance.

Because Fig. 4 and neither Miura nor Platte, alone or in combination, teach a container having a waist comprising an arcuate groove wall, the cited references would not

have rendered obvious the subject matter of independent claim 1. Claim 3, 4 and 8 depend from claim 1 and, thus, would not have been rendered obvious by the references. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Kumamoto et al.

Claims 2, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fig. 4 or Miura in view of Platte, and further in view of Japanese Patent Publication No. 2000-025733 to Kumamoto et al. (hereinafter "Kumamoto"). Applicants respectfully traverse the rejection.

Kumamoto fails to overcome the deficiencies of the primary references. Furthermore, Kumamoto is drawn to non-analogous art and teaches away from the claimed invention.

Kumamoto teaches a hollow container made of pulp (i.e. used paper) and it is the object of Kumamoto to use pulp rather than plastic. See Kumamoto at p. 1, paragraph [0002]. The claimed invention is drawn to a container made of synthetic resin rather than pulp. Although, Kumamoto teaches the addition of plastic walls to strengthen the pulp container, the plastic is used for reinforcement. See Kumamoto at p. 3, paragraph [0015]. Consequently, the cited reference is inapposite of the claimed invention, which is designed to minimize the amount of material used to produce the container, while at the same time maintaining the strength of the container.

Because the purpose of the claimed invention is to minimize the amount of synthetic resin needed to produce a container while maintaining the container's strength and the reference discloses used pulp without any suggestion or teaching towards conserving resin and maintaining strength, the reference would not have been combined with Fig. 4, Miura, and Platte, and even if combined would not have rendered obvious the subject matter of independent claim 1. Claim 2, 6 and 7 depend from claim 1 and, thus, would not have been

rendered obvious by Kumamoto and the other cited references. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

C. Tomizawa et al.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fig. 4 or Miura in view of Platte, and further in view of Japanese Patent Publication No. 10-305823 to Tomizawa et al. (hereinafter "Tomizawa"). Applicants respectfully traverse the rejection.

The object of the claimed invention is a synthetic resin container capable of effectively compensating for lowering of the strength due to the reduction of the container wall thickness. As described above, Fig. 4, Miura, and Platte do not teach or suggest all of the limitations of claim 1. Tomizawa fails to overcome the deficiencies of the primary references. Furthermore, Tomizawa teaches a square-shaped synthetic resin container with four pillar sections with two bulges at each of the four pillar sections. See Tomizawa at p. 6, Fig. 2. When the container is compressed lengthwise, stresses concentrate at the eight bulges in the circumferential groove section. See Tomizawa at p. 3-4, paragraph [0013].

On the other hand, in the claimed invention the waist of the container has a circumferential groove having an arcuate groove wall at the pillar portions 1a. See Fig. 3. Thus, instead of having two bulges at the pillar portions, the claimed invention has a single arcuate groove wall.

Moreover, Tomizawa teaches away from the claimed invention. When the Tomizawa container is compressed by the lengthwise direction, stress concentrates at the circumferential groove producing a bucking distortion, which bends to the inside of the bottle. See Tomizawa at p. 2, paragraph [0006] and Fig. 6. The claimed invention overcomes this problem by having an arcuate groove wall without inflection points.

Since neither Fig. 4, or Miura in view of Platte, nor Tomizawa teach or suggest a container having a waist comprising an arcuate groove wall, the cited references would not

have rendered obvious the subject matter of claim 1. Claim 5 depends from claim 1 and, thus, would not have been rendered obvious by the primary references nor Tomizawa. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of this application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:ABF/hms

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Attachment:
Replacement Sheets

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